

We claim:

1. A mobile highway tractor, comprising:
  - a chassis with a driver's cab engaged;
  - a sleeper compartment engaged to said cab and said chassis;
  - said sleeper compartment having side walls;
  - said sleeper side walls comprised of an exterior side panel;
  - said exterior side panel engaged to an integrated reinforcement and interior trim panel; and
  - said integrated reinforcement and interior trim panel comprised of a plastic-metal hybrid material.
2. The highway tractor of Claim 1, wherein said integrated reinforcement and interior trim panel comprising:
  - a metal interior structural panel being pressed into a shape including structural sides;
  - a support channel engaged to said interior structural panel; and
  - plastic injection molded V-shaped reinforcing and support ribs formed into a zigzag pattern about said reinforcement and interior trim panel.
3. The highway tractor of Claim 2, wherein:
  - said reinforcing and support ribs being formed by injection through holes in said metal structural panel.
4. The highway tractor of Claim 3, wherein:
  - said reinforcing and support ribs being engaged along and across said support channel with engagement at discrete engagement locations along the support channel; and
  - said discrete engagement locations corresponding to plastic injection points for injection molding.

5. The highway tractor of Claim 4, wherein:

said interior structural panel is comprised of steel sheets; and  
said plastic of said ribs is partially crystalline plastic.

6. An integrated reinforcement and interior trim panel for a mobile highway tractor, the tractor having a chassis with a driver's cab engaged, a sleeper compartment engaged to the cab and the chassis, the sleeper having an exterior side panel, comprising:

a metal interior structural panel being pressed into a shape including structural sides;  
a support channel engaged to said interior structural panel; and  
plastic injection molded V-shaped reinforcing and support ribs formed into a zigzag pattern about said reinforcement and interior trim panel.

7. The reinforcement and interior trim panel of Claim 6, wherein:

said reinforcing and support ribs being engaged along and across said support channel with engagement at discrete engagement locations along the support channel; and  
said discrete engagement locations corresponding to plastic injection points for injection molding.

8. The reinforcement and interior trim panel of Claim 7, wherein:

said interior structural panel is comprised of steel sheets; and  
said plastic of said ribs is partially crystalline plastic.

9. The highway tractor of Claim 1, wherein:

said exterior panel containing openings and said reinforcement and interior trim panel having corresponding openings;  
said reinforcement and interior trim panel having a hollow sheet metal support frame running around sides and upper portions of said reinforcement and interior trim panel as well as adjacent to said openings in said reinforcement and interior trim panel;  
support channels engaged to said reinforcement and interior trim panel;

said support channels containing reinforcing and support rib matrixes;  
and  
said support rib matrixes made of zigzagged plastic material providing  
bracing and support to said support channels and said reinforcement and  
interior trim panel.

10. The highway tractor of Claim 9, wherein:

said reinforcement and interior trim panel including an interior trim  
surface; and  
said interior trim surface providing a high quality inner wall surface for  
sleeper cabinetry mounting.

11. The highway tractor of Claim 2, comprising:

insulating foam between said exterior side panel and said integrated  
reinforcement and interior trim panel.

12. The highway tractor of Claim 10, comprising:

insulating foam between said exterior side panel and said integrated  
reinforcement and interior trim panel.

13. A mobile highway tractor, comprising:

a chassis with a driver's cab engaged;  
a sleeper compartment engaged to said cab and said chassis;  
said sleeper compartment having side walls;  
said sleeper side walls comprised of an exterior side panel;  
said exterior side panel engaged to an integrated reinforcement and  
interior trim panel;  
said integrated reinforcement and interior trim panel comprised of a  
plastic-metal hybrid material;  
said reinforcement and trim panel having an inner trim surface panel and  
a crosshatched rib matrix of alternate direction ribs;  
said reinforcement and trim panel and alternate direction ribs being  
comprised of a plastic; and

said reinforcement and trim panel having integrated metal support pieces engaged to said reinforcement and trim panel and said alternate direction ribs.

14. The highway tractor of Claim 13, wherein:

said interior structural panel is comprised of steel sheets; and  
said plastic of said ribs is partially crystalline plastic.

15. An integrated reinforcement and interior trim panel for a mobile highway tractor, the tractor having a chassis with a driver's cab engaged, a sleeper compartment engaged to the cab and the chassis, the sleeper having an exterior side panel, comprising:

said integrated reinforcement and interior trim panel comprised of a plastic-metal hybrid material;  
said reinforcement and trim panel having an inner trim surface panel and a crosshatched rib matrix of alternate direction ribs;  
said reinforcement and trim panel and alternate direction ribs being comprised of a plastic; and  
said reinforcement and trim panel having integrated metal support pieces engaged to said reinforcement and trim panel and said alternate direction ribs.

16. The reinforcement and interior trim panel of Claim 15, wherein:

said interior structural panel is comprised of steel sheets; and  
said plastic of said ribs is partially crystalline plastic.